U.S. Serial No. 09/729,010
Response to the Office Action of September 16, 2005

REMARKS

By way of this response, claims 81 and 91 have been canceled without prejudice, with

independent claims 70, 76, 82, and 87 remaining. Thus, claims 70-80 and 82-90 are currently

pending and at issue. The amendments are presented to clarify that the storing and retrieval

of digital video data includes a plurality of multiplexers adapted to alter the data bit pattern of

the digital video data by selecting each data bit or its inverse according to a preprogrammed

bit altering scheme.

The Rejections under 35 U.S.C. § 103

Claims 70-74 and 82-85

Independent claims 70 and 82 are directed to an apparatus and method, respectively,

of altering a digital video data bit pattern by inverting selected data bit positions to form an

altered bit pattern. In particular, claim 70 recites, *inter alia*, an apparatus for storing digital

video data including a plurality of multiplexers, each configured to receive an associated one

of the plurality of data bits in the digital video data bit pattern and its inverse, and outputting

one of the inputs according to a preprogrammed bit altering scheme. Claim 82 recites, *inter*

alia, a method of altering the bit pattern of the data bits by selecting one of the associated

data bits or its inverse based upon a preprogrammed data altering scheme to form an altered

bit pattern.

Independent claims 70 and 82 were rejected as obvious over Boutaud (U.S. Patent No.

5,734,927) in view of Tsukamoto (U.S. Patent No. 5,796,828). However, Boutaud does not

teach or suggest the altering of a digital video data bit pattern by selecting each data bit or its

inverse in a plurality of multiplexers, nor is there any evidence of a motivation to combine

the teachings of clock signal filtering of Boutaud with the enciphering of Tsukamoto.

In contrast, Boutaud is directed to an electronic circuit for buffering data for a serial

port processor by generating at least one interrupt control signal. Specifically, Boutaud

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discloses a clock circuit (FIGS 10A-10F) employed to generate clock signals required to

produce the necessary control interrupts. As illustrated in FIG. 10D, the clock circuitry

includes a first multiplexer 4380 to receive a frsexckxi signal and its inverse (Boutaud, col.

29, ll. 1-2), and to output one of the frsexckxi bit or its inverse based upon the inverse of the

spiclkp signal (col. 29, ll. 20-24). The signal from the multiplexer 4380 is turned into two

non-overlapping clock signals which are output from NOR-gate 4372 and NOR gate 4374

(col. 29, ll. 7-10). Similarly, the second multiplexer 4390 receives a separate frsexckri signal

and its inverse (col. 29, ll. 25-30) and outputs two non-overlapping cock signals.

Accordingly, the identified multiplexers do not each receive one of a plurality of data bits in a

digital video data bit pattern, but rather receive signals from different sources as illustrated

and generate clock signals. Furthermore, the resulting clock signals are clearly never

combined, let alone combined to form an altered digital video data bit pattern. Boutaud

simply does not disclose or suggest a plurality of multiplexers configured to received a digital

video data bit pattern and output an altered data bit pattern as claimed.

Similarly, while Tsukamoto generally discloses a satellite television broadcasting

system that stores and retrieves data signals, there is no teaching or suggesting of altering a

bit pattern by utilizing the clock signal generation of Boutaud.

The mere fact that references can be modified is not sufficient to establish a *prima*

facie case of obviousness. See Section 2143.01 of the M.P.E.P., which states: "The mere

fact that references can be combined or modified does not render the resultant combination

obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916

F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)" (emphasis original).

In order to establish a *prima facie* case of obviousness, there must be actual evidence

of a suggestion to modify a prior art reference or to combine two prior art references, and the

suggestion to combine or modify the prior art must be clear and particular. See, for example,

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In re Dembiczak, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999), where the Court of Appeals for

the Federal Circuit stated:

> The range of sources available, however, does not diminish the
> requirement for **actual evidence**. That is, the showing must be
> **clear and** particular. Broad conclusory statements regarding
> the teaching of multiple references, standing alone, are **not**
> 'evidence.' (emphasis added, citations omitted).

The suggestion to combine references must be from the prior art, not Applicants'

disclosure. See Section 2143 of the M.P.E.P., which states: "The teaching or suggestion to

make the claimed combination and the reasonable expectation of success must both be found

in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438

(Fed. Cir. 1991)."

The rejections of the claims are based on the following excerpt from the Office

Action:

> It would have been obvious to one of ordinary skill in
> the art at the time the invention was made, to combine
> receiving data bits and storing the altered data bits, as taught by
> Tsukamoto et al., with the apparatus of Boutaud et al. It would
> have been obvious for such modifications because in a DVR
> application, data bits are required to be stored for later retrieval
> and viewing. Storing the bits in a scrambled form prevents
> anyone from illegally viewing the program.

Office action, p. 3.

However, the combination proposed in the Office action is predicated on both

Boutaud and Tsukamoto disclosing methods of scrambling video data. Given that as

described above, Boutaud does not teach or suggest the altering of a digital video data bit

pattern, but rather the generation of independent clock signals, and given that Tsukamoto

already discloses the storing of data bits and the scrambling of the bits to prevent illegally

viewing the program, it is respectfully submitted that one of ordinary skill in the art would

not have been motivated to look to the clock signal generation of Boutaud to modify the

teaching of Tsukamoto for any reason. Furthermore, there is no evidence that one of ordinary

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skill in the art would have been motivated to look to the datastudy of Tsukamoto to modify the teachings of Boutaud for any reason.

Any suggestion that the ability to generate clock signals as described in Boutaud could be used in conjunction with video data storage as taught in Tsukamoto, is purely conclusory, and is not supported by <u>any actual evidence</u> in either Boutaud or Tsukamoto. Specifically, as noted above, Boutaud is completely void of any suggestion of utilizing a plurality of multiplexers to generate an altered video data bit pattern, and therefore there would be no motivation for one of ordinary skill in the art to look to Boutaud to modify the enciphering of Tsukamoto because Tsukamoto does not generate any clock signals. Additionally, there is no evidence of any suggestion or motivation to modify the clock signal generation of Boutaud with the data storage of Tsukamoto because there is no teaching or suggestion in Boutaud to store the generated clock signals at all, let alone in a scrambled pattern.

Accordingly, it is respectfully submitted that for at least these reasons, one of ordinary skill in the art would <u>not</u> have been motivated to modify Boutaud, because there is no teaching or suggestion in either Boutaud or Tsukamoto for any combination thereof. Therefore, because there is no suggestion in the prior art for the desirability to modify, it is respectfully submitted that a *prima facie* case of obviousness, has not been established. Thus, claims 70-74 and 82-85 are in condition for allowance.

Claims 76-80 and 87-90

Independent claims 76 and 87 have been amended to include the limitations of dependent claims 81 and 91, respectively, and are directed to an apparatus and method for both altering and scrambling a digital video data bit pattern to form a scrambled and altered bit pattern. In particular, claim 76 recites, *inter alia*, an apparatus for storing digital video data including a plurality of multiplexers, each configured to receive each of the plurality of

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data bits and select a unique one of the data bits, and a second plurality of multiplexers each

configured to receive an associated one of the plurality of data bits in the digital video data

bit pattern and its inverse, and outputting one of the inputs according to a preprogrammed bit

altering scheme. Claim 82 recites, *inter alia*, a method of scrambling and altering the bit

pattern of the data bits by selecting a unique one the data in a plurality of multiplexers to

form a scrambled bit pattern, and utilizing a second plurality of multiplexers to select one of a

one of the associated data bits or its inverse based upon a preprogrammed data altering

scheme to form a scrambled and altered bit pattern.

Claims 81 and 91 were rejected as obvious over Kang (U.S. Patent No. 5,177,786) in

view of Tsukamoto, in further view of Boutaud. As suggested in the Office action, "it would

have been obvious for such modifications because a second round of protection further

protect the data." However, as discussed above, there is no evidence of any modification to

combine the teachings of Boutaud with Tsukamoto, nor does Kang provide any such

motivation, let alone a motivation to provide a second round of protection.

In contrast, while Kang discloses the simultaneous bit-scrambling of an 8-bit data

pattern by use of eight 8x1 multiplexers, Kang does not teach or suggest the use of a plurality

of multiplexers to invert individual data bits as claimed (and as admitted by the examiner),

nor does Kang teach or suggest that one of ordinary skill in the art would look to the

teachings of Boutaud to alter the data bits for a "second round of protection." In fact, Kang

suggests the opposite, that the scrambling as taught therein is already sufficient to protect the

data while avoiding prohibitive manufacturing costs. In particular, Kang notes that through

the teaching of Kang, "it is possible to prevent any deterioration of the image quality,

increase of cost, and illegal watching by non-subscribers." (Kang, col. 2, line 60-70).

Therefore, one of ordinary skill in the art would not have been motivated to modify Kang, to

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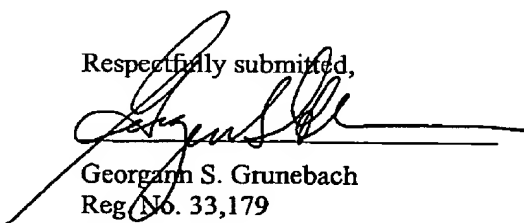Response to the Office Action of September 16, 2005

provide a second round of protection, because Kang already effectively protects the data

while reducing costs.

Accordingly, it is respectfully submitted that for at least these reasons, one of ordinary

skill in the art would <u>not</u> have been motivated to combine Kang, Boutaud, and Tsukamoto

because there is no teaching or suggestion in any of the references for any combination

thereof. Therefore, because there is no suggestion in the prior art for the desirability to

modify, it is respectfully submitted that a *prima facie* case of obviousness, has not been

established. Thus, claims 76-80 and 87-90 are in condition for allowance.

Conclusion

For at least these reasons, it is respectfully submitted that the pending claims are in

condition for allowance. If, for any reason, the examiner is unable to allow the application in

the next Office action, the examiner is encouraged to telephone the undersigned attorney at

the telephone number listed below.

Respectfully submitted,

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